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REMARKS

Entry of this amendment is proper under 37 CFR §1.116, since no new issues or claims are presented. Moreover, Applicants respectfully request that the finality of the rejection in the latest Office Action be withdrawn, since the amendments in Applicants' previous response were not directed to overcoming the cited reference. The Examiner clearly recognized that this previous prior art rejection was deficient and replaced it with a rejection based on newly-cited Rekter. As pointed out below, Applicants believe that this new rejection is deficient.

Claims 1-19 are all the claims presently pending in the application. Various claims are amended so that all claims have a consistent format. The amendments introduce no new matter.

It is noted that the claim amendments herein, if any, are made only to more clearly and completely define the invention and to assure grammatical and idiomatic English and improved form under United States practice, and are not made to distinguish the invention over the prior art, or for any statutory requirements of patentability. Further, Applicants specifically state that no amendment to any claim herein should be construed as a disclaimer of any interest in or right to an equivalent of any element or feature of the amended claim.

Claims 1-19 stand rejected under 35 U.S.C. §102(e) over newly-cited Rekter (US 6,526,056).

This rejection is respectfully traversed in the following discussion.

THE CLAIMED INVENTION

The claimed invention, as exemplarily described in the embodiment of independent claim 1, relates to a node in an Ethernet network to relay an Ethernet frame.

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The node has an element which inserts two or more VLAN tags into the Ethernet
frame. The element also removes an inserted VLAN tag from the Ethernet frame. The
VLAN tags are inserted to and removed from the Ethernet frame during a frame relay
process.

A conventional node in Ethernet is controlled with a network control frame storing
the network control information in the payload section and the address of the node to be
controlled in the MAC address and the IP address. If a user uses the entire network
bandwidth for data transmission, then the node cannot send the control frame. In addition,
the control frame needs to have at least 64 bytes regardless of the control information amount
for the node according to Ethernet standard specified by IEEE802.3.

IEEE802.1Q, that provides for the technology related to the VLAN, specifies that a
VLAN tag shall be given to a frame during frame relay for network separation. The node that
relays conventional Ethernet frames has a function to process at most one VLAN tag at a time
in frame relay and a forwarding table to store the VLAN tag information given during such
frame relay assures an information area for one VLAN tag only.

Because the VLAN tag in the frame is the information for network separation, the
node that relays the frame with VLAN tag does not change the contents of the VLAN tag.
The information in the VLAN tag is used for frame transfer only. Further, in transmission of
the VLAN frame at the data link layer, the frame is relayed and the transfer port is
determined by reference to the MAC address and the VLAN ID.

The conventional node control in Ethernet as described above has several drawbacks.
A conventional node in Ethernet as specified in IEEE802.3 is controlled using the frame
storing the control information in the payload section and the address of the node to be

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controlled in the MAC address and the IP address. Thus, while the user uses the entire

network bandwidth for data transmission, the node cannot send the control frame. The

control frame needs to have at least 64 bytes regardless of the control information amount for

the node according to Ethernet standard. If the control frame is frequently sent in the

network, it may oppress the bandwidth of the user data. When the VLAN tag is given for

frame transfer, several VLAN tags cannot be provided because there is no information area in

the forwarding table. And, a loop network may be formed in IEEE802.3 Ethernet, because

no function to discard frames when a loop of packet transfer is generated in VLAN packet

transfer at the data link layer has been realized, the looped packets occupy the network or

induce oppression of the packet memory in the system, which results in unstable status of the

network.

The claimed invention, on the other hand, provides a frame transfer method and a

node in Ethernet that enable transmission of the network control information from the node

even while the user is using the network. The frame transfer method and node in Ethernet

can minimize oppression of the network bandwidth caused by transmission of the network

control information by enabling transmission of the minimum information regardless of the

frame restriction. The frame transfer method and node in Ethernet can send a large

information amount including the network control information as tags by enabling provision

of several tags in Ethernet frame transfer. The frame transfer method and node in Ethernet

enable discarding of frames in VLAN packet transfer at the data link layer and to thereby

prevent the network from becoming unstable by avoiding occupation of the network by

looped packets and oppression of the packet memory in the system.

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THE PRIOR ART REJECTION

Claims 1-19 stand rejected under 35 U.S.C. §102(e) over newly-cited Rekter. The Examiner alleges that the claimed invention is disclosed by Rekter. However, Applicants submit that there are features of the claimed invention which are neither disclosed nor suggested in Rekter.

With regard to independent claim 1, Rekter fails to disclose or suggest at least "... an element which inserts two or more VLAN tags into said frame and removes an other said inserted VLAN tag in a relay process of said frame."

The Examiner points to column 4, lines 64-66, as demonstrating insertion of two tags and to column 8, lines 41-54, as demonstrating removal of a tag.

However, the insertion of two tags and removal of a tag in Rekter is not being executed by the same unit, as clearly explained at lines 31-46 of column 8: "*We now return to FIG.1 and assume that PE2 has just sent P2 a packet thus tagged.... When P2 forwards the packet to P1, it replaces tag T2 with a new tag, T1, which P1 has asked its neighbors to attach to any packets that should be sent through PE1-egress routes, and P1 similarly makes its routing decision without having hadt o maintain separate routing information for the destination VPN.*"

Thus, Rekter fails to teach or suggest an element that both removes a tag and replaces it with two or more tags, as required by independent claim 1. In order to satisfy the plain meaning of the claim language of independent claim 1, the PE2 unit in the above-recited description from Rekter would have to also remove a tag. There is no suggestion in Rekter for this additional step of removing a tag in PE2.

Moreover, relative to claim 8, Applicants respectfully submit that the description at

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line 66 of column 7 through line 14 of column 8 does not reasonably describe control

information being stored in a tag. As explained above, this feature of the present invention

allows control information to be sent along with packets having payload information.

Claims 11-19 recite similar features to claims 1-10, and stand rejected on substantially

similar basis, and Applicants traverse the rejection of claims 11-19 on substantially similar

grounds as discussed above.

Thus, Applicant respectfully requests the Examiner reconsider and withdraw the

rejection of claims 1-19.

CONCLUSION AND FORMAL MATTERS

The Examiner considers that Figures 13 and 14 should be labeled "PRIOR ART"

because the Examiner considers that they show only that which is old. In response,

Applicants bring the Examiner's attention to the discussion related to Figure 13 at line 27 of

page 11 through line 4 of page 12 and at lines 22-27 of page 12 and the discussion related to

Figure 14 at line 26 of page 10 through line 3 of page 11. These discussions clearly

demonstrate that these figures apply to the present invention. Therefore, it would be

improper to label them as prior art, since such label would incorrectly imply that these figures

do not apply to the present invention.

In view of the foregoing, Applicant submits that claims 1-19, all the claims presently

pending in the application, are patentably distinct over the prior art of record and are

allowable, and that the application is in condition for allowance. Such action would be

appreciated.

Should the Examiner find the application to be other than in condition for allowance,

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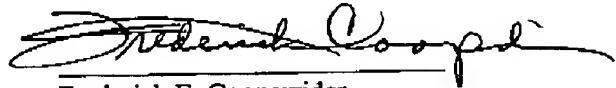Application No. 10/642,197
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the Examiner is requested to contact the undersigned attorney at the local telephone number

listed below to discuss any other changes deemed necessary for allowance in a telephonic or

personal interview.

To the extent necessary, Applicant petitions for an extension of time under 37 CFR

§1.136. The Commissioner is authorized to charge any deficiency in fees, including

extension of time fees, or to credit any overpayment in fees to Attorney's Deposit Account

No. 50-0481.

Respectfully Submitted,

Date: _02/25/08_

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